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CURRENT MINNESOTA LABOR MARKET CONDITIONS

July, 1983 Supplement to The Review of Labor and Economic Conditions

Prepared by the Research and Statistical Services Office, MN Dept. of Economic Security, 390 N. Robert St., St. Paul MN 55101, in cooperation with the U.S. Department of Labor, Bureau of Labor Statistics, and Employment and Training Admin.

Nation

Most indicators of economic activity for August and the third quarter suggested that the recovery is slowing down. However, most economists believe that the recovery is still proceeding at a satisfactory pace and that the economy will continue to grow at a steady but modest rate through 1984.

Labor market conditions, for the most part, continued to improve in August though not as rapidly as in earlier months. Although a significant increase in the number of job-seekers caused the unemployment rate to remain at 9.5 percent in August, total employment rose by 278,000 and nonfarm payroll employment, without the effects of the strikes, would have risen by about 300,000. Persons on strike are not counted as employed in the establishment survey. Relatively large gains were recorded in construction and services, but it appears that the employment growth in manufacturing would have slowed considerably even without any strike activity.

Other developments in August also gave evidence of a deceleration in economic growth. Industrial production had its smallest increase since February and retail sales declined in both July and August. Although housing starts rose substantially in August, housing permits fell and housing economists predicted that the level of starts would be edging down in the coming months. Moreover, the very early estimate of real gross national product indicated that real growth in the third quarter would be about 7.0 percent, still a healthy gain but slower than the revised 9.7 percent growth in the second quarter.

State

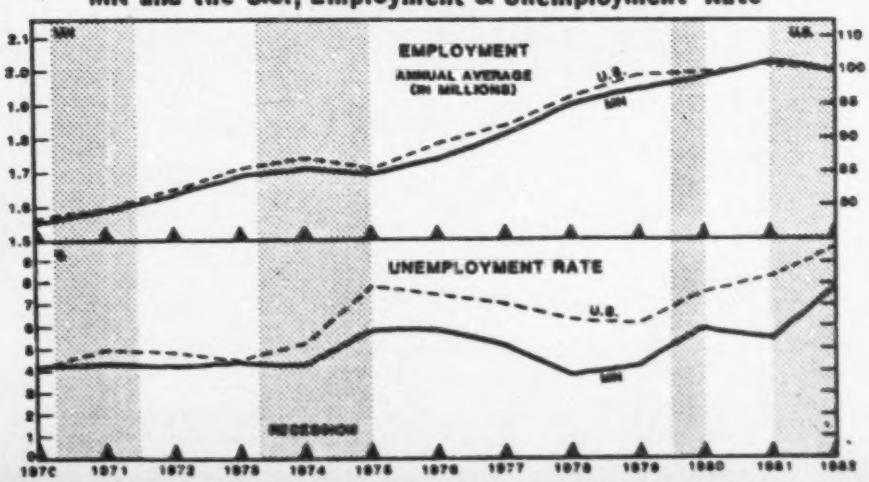
Even though unemployment did not decline significantly and the nonfarm employment picture was clouded by labor disputes, the Minnesota economy appeared to gain some strength in August, after being somewhat flat during most of 1983. Total employment showed a relatively strong rise in August and, without the strike activity, seasonally adjusted nonfarm payroll employment would probably have risen substantially in August.

The 0.3 of a percentage point drop in the State's seasonally unadjusted unemployment rate in August was fractionally less than the average July to August decline and although the rate was 0.7 of a point below that of August 1982, it was considerably higher than the August rates of previous years. On the other hand, the July to August rise of 0.9 percent in total employment contrasted with the average July to August decline of 0.7 percent. Moreover, the over-the-year gain of 1.7 percent in total employment in August was the first increase from the year before since January 1982.

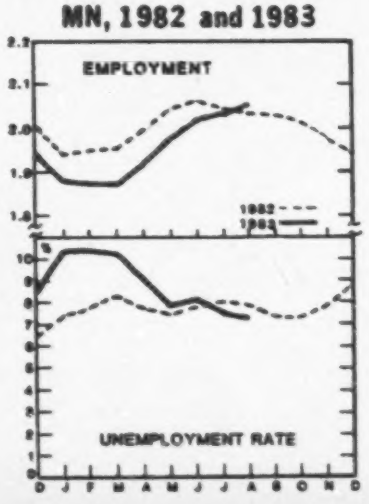
Largely as a result of labor disputes, seasonally adjusted nonfarm payroll employment fell by 900 in August, after an increase of 6,300 in July. Persons on strike are not counted as employed in the establishment survey. However, we estimate that, without the strike activity, payroll employment would have risen by about 7,000. Even more important, employment in manufacturing which was only slightly affected by strikes showed some strength for the first time since January, rising by 2,800 after seasonal adjustment.

Labor Force Estimates	MINNESOTA (Numbers in '000's)			UNITED STATES (Numbers in '000,000's)		
	August 1983	Change From Last Mo.	Change From Year Ago	August 1983	Change From Last Mo.	Change From Year Ago
Civilian Labor Force	2219.5	13.8	20.3	113.6	-0.4	1.7
Employed	2059.0	18.2	33.4	103.2	-0.1	2.0
Unemployed	160.5	-4.4	-13.1	10.4	-0.3	-0.3
Unemployment Rate						
Actual	7.2	-0.3	-0.7	9.2	-0.2	-0.4
Seasonally Adjusted	n.a	n.a	n.a	9.5	0.0	-0.3

MN and the U.S., Employment & Unemployment Rate



MN, 1982 and 1983



Minnesota Nonagricultural Wage & Salary Employment, Hours, and Earnings

INDUSTRY	EMPLOYMENT[1] (thousands)			PER CENT CHANGE FROM		PRODUCTION WORKERS' HOURS & EARNINGS					
						Average Weekly Earnings		Average Hourly Earnings		Average Weekly Hours	
	Aug. 1983	July 1983	Aug. 1982	July 1983	Aug. 1982	Aug. 1983	July 1983	Aug 1983	July 1983	Aug 1983	July 1983
TOTAL NONAGRICULTURAL	1708.3	1703.5	1704.6	0.3	0.2						
MANUFACTURING	347.6	340.0	352.2	2.2	-1.3	377.30	375.80	9.48	9.49	39.8	39.6
Durable Goods	202.1	199.2	205.1	1.5	-1.4	392.04	385.12	9.68	9.58	40.5	40.2
Furniture, Lumber and Wood	14.3	14.1	14.1	1.3	1.3	437.84	393.00	10.40	10.00	42.1	39.3
Stone, Clay and Glass	8.5	8.4	8.9	0.2	-5.4	376.92	376.71	9.64	9.61	39.1	39.2
Primary Metals	4.8	4.8	5.2	-1.0	-8.6	332.35	340.56	8.61	8.71	38.6	39.1
Fabricated Metals	32.9	32.8	33.1	0.3	-0.7	442.49	436.89	10.74	10.63	41.2	41.1
Nonelectrical Machinery	78.0	76.6	78.9	1.8	-1.2	392.40	390.65	9.81	9.84	40.0	39.7
Electrical Machinery	26.0	26.1	26.4	-0.5	-1.5	346.72	351.85	8.54	8.54	40.6	41.2
Transportation Equipment	6.0	4.7	5.9	28.7	2.1	439.49	369.87	10.59	9.11	41.5	40.6
Other Durable Goods [2]	31.8	31.7	32.6	0.2	-2.4	357.78	357.60	8.90	8.94	40.2	40.0
Nondurable Goods	145.5	140.8	147.1	3.3	-1.1	359.58	365.27	9.22	9.39	39.0	38.9
Food and Kindred	52.2	48.1	53.3	8.5	-2.0	319.19	331.85	8.04	8.38	39.7	39.6
Textile and Apparel	4.8	4.7	4.8	3.5	0.3	216.09	214.29	6.07	6.14	35.6	34.9
Paper and Allied	32.7	32.6	32.5	0.3	0.4	462.01	465.65	10.67	10.68	43.3	43.6
Printing and Publishing	34.8	34.6	35.7	0.4	-2.7	354.96	348.84	10.20	10.20	34.8	34.2
Chemical and Petroleum	9.5	9.4	9.4	0.8	0.9	421.37	422.22	10.86	10.91	38.8	38.7
Rubber and Leather	11.5	11.3	11.3	1.3	1.9	308.63	313.01	8.23	8.13	37.5	38.5
NONMANUFACTURING	1360.7	1363.5	1352.5	-0.2	0.6						
Mining and Quarrying	9.2	10.4	6.2	-11.8	48.2	425.01	425.43	12.04	12.19	35.3	34.9
Metal Mining	6.8	8.1	4.0	-15.2	70.3	421.82	421.82	13.10	13.10	32.2	32.2
Construction	72.2	69.6	69.1	3.8	4.6	576.31	584.89	14.59	14.77	39.5	39.6
Building	19.0	18.8	18.8	0.7	0.8	514.37	534.88	13.43	13.75	38.3	38.9
Highway and Heavy	16.4	15.3	13.9	7.3	17.7	609.74	592.73	13.46	13.29	45.3	44.6
Special Trades	36.9	35.5	36.3	4.0	1.5	593.44	609.99	15.91	16.18	37.3	37.7
Transportation	58.6	58.7	59.0	0	-0.6						
Railroads	12.9	13.1	13.4	-1.5	-3.8	535.44	535.44	11.64	11.64	46.0	46.0
Trucking and Warehousing	23.3	23.0	23.3	1.5	0	427.49	429.39	11.68	11.70	36.6	36.7
Public Utilities	25.2	33.1	34.2	-23.9	-26.4	514.70	504.66	12.74	12.43	40.4	40.6
Communications	10.9	18.9	20.0	-42.2	-45.3	468.93	468.93	11.55	11.55	40.6	40.6
Elec., Gas and Sanitary	14.2	14.2	14.2	0.4	0.1	543.50	544.85	13.52	13.42	40.2	40.6
Trade	440.0	435.6	437.3	1.0	0.6	225.22	226.44	7.36	7.40	30.6	30.6
Retail	325.7	322.9	321.7	0.9	1.3	180.06	178.79	6.34	6.34	28.4	28.2
General Merchandise	43.4	43.1	43.8	0.7	-1.0	174.33	167.61	5.85	5.84	29.8	28.7
Food Stores	46.7	46.6	45.9	0.1	1.8	210.98	211.12	7.25	7.23	29.1	29.2
Automotive	34.6	34.5	34.3	0.5	1.0	281.43	284.62	7.95	8.04	35.4	35.4
Eating and Drinking	110.7	109.6	109.6	1.1	1.0	103.21	103.67	4.67	4.67	22.1	22.2
Wholesale	114.3	112.7	115.6	1.4	-1.2	382.85	390.33	9.97	10.06	38.4	38.8
F.I.R.E.	99.5	99.2	98.9	0.4	0.7						
Finance	47.8	47.6	46.3	0.4	3.2						
Insurance	35.3	35.2	35.6	0.4	-1.0						
Real Estate	16.5	16.4	16.9	0.4	-2.6						
Service Industries	393.7	391.4	383.8	0.6	2.6						
Hotel and Lodging	23.1	22.7	22.6	1.9	2.2						
Business Services	58.5	58.4	56.8	0.1	3.0						
Health Services	136.3	136.1	133.7	0.1	1.9						
Private Education	18.8	18.6	18.5	0.8	1.6						
Soc. Serv., Museums etc.	84.3	83.9	82.0	0.5	2.9						
Government	262.3	265.6	264.1	-1.2	-0.7						
Federal	30.0	29.9	31.1	0.2	-3.5						
State	62.6	62.6	61.2	0	2.3						
Local	169.7	173.1	171.8	-1.9	-1.2						

[1] Totals may not add because of rounding.
[2] Includes Scientific Instruments and Miscellaneous Industries.

Labor Force Data: State, SMSAs, and Counties

Area or County	August, 1983 Prelim.		
	Labor Force[1]	Unemp.	Un. Rate
State of Minnesota	2219563	160527	7.2
Metropolitan Areas			
Duluth/Superior (Duluth City Only)	36456	4110	11.3
Fargo/Moorhead (Clay County, MN Only)	28348	2369	8.4
Minneapolis/St. Paul SMSA[2]	1185152	75731	6.4
Rochester SMSA (Olmsted Co.)	60845	3030	5.0
St. Cloud SMSA[3]	79506	6716	8.4
Counties			
Aitkin	5830	776	13.3
Anoka	112862	7836	6.9
Becker	13024	1334	10.2
Beltrami	16427	1229	7.5
Benton	12220	990	8.1
Big Stone	4294	251	5.8
Blue Earth	29183	1785	6.1
Brown	16406	1044	6.4
Carlton	12043	1417	11.8
Carver	20961	1110	5.3
Cass	11370	1032	9.1
Chippewa	7545	513	6.8
Chisago	14093	912	6.2
Clay	28348	2369	8.4
Clearwater	4258	586	13.8
Cook	2505	244	9.7
Cottonwood	7876	690	8.8
Crow Wing	18307	1756	9.6
Dakota	110810	6795	6.1
Dodge	9100	681	7.5
Douglas	14272	893	6.3
Faribault	11979	617	5.2
Fillmore	12985	832	6.4
Freeborn	18590	1466	7.9
Goodhue	20426	1464	7.2
Grant	3739	183	4.9
Hennepin	539260	34802	6.5
Houston	10624	529	5.0
Hubbard	6231	696	11.2
Isanti	10373	907	8.7
Itasca	18525	2438	13.2
Jackson	8317	529	6.4
Kanabec	5402	563	10.4
Kandiyohi	18961	1235	6.5
Kittson	3619	286	7.9
Koochiching	7570	715	9.4
Lac qui Parle	6637	324	4.9

Area or County	August, 1983 Prelim.		
	Labor Force[1]	Unemp.	Un. Rate
Lake	4621	1528	33.1
Lake of the Woods	2021	137	6.8
Le Sueur	13855	981	7.1
Lincoln	4167	181	4.3
Lyon	15494	829	5.4
McLeod	18824	1093	5.8
Mahnomen	3074	295	9.6
Marshall	6796	724	10.7
Martin	14809	886	6.0
Meeker	12499	983	7.9
Mille Lacs	9230	844	9.1
Morrison	13153	1215	9.2
Mower	18470	1290	7.0
Murray	6681	386	5.8
Nicollet	14822	718	4.8
Nobles	12481	539	4.3
Norman	4945	254	5.1
Olmsted	60845	3030	5.0
Otter Tail	25839	1859	7.2
Pennington	6571	554	8.4
Pine	10245	939	9.2
Pipestone	5885	244	4.1
Polk	16055	1552	9.7
Pope	5970	374	6.3
Ramsey	263596	17219	6.5
Red Lake	2310	330	14.3
Redwood	11099	563	5.1
Renville	16582	956	5.8
Rice	24195	1679	6.9
Rock	5994	217	3.6
Roseau	6157	420	6.8
St. Louis (Inc. Duluth)	92284	14833	16.1
Scott	24775	1313	5.3
Sherburne	14534	1199	8.2
Sibley	8826	474	5.4
Stearns	52752	4527	8.6
Steele	17210	1198	7.0
Stevens	6024	242	4.0
Swift	7767	493	6.3
Todd	12518	900	7.2
Traverse	3026	161	5.3
Wabasha	10324	625	6.1
Wadena	5744	524	9.1
Waseca	10127	613	6.1
Washington	64412	3555	5.5
Watonwan	6982	429	6.1
Wilkin	4728	305	6.5
Winona	22881	1918	8.4
Wright	33783	2189	6.5
Yellow Medicine	8009	381	4.8

Technical Notes:

1/ Labor force data is computed according to BLS methodology. The method includes an adjustment to assure that the sum of the substate areas equals the separately estimated State total. This adjustment is Applied to all county and SMSA areas. County and area unemployment was multiplied by an adjustment factor of 1.69 ; employment was multiplied by 1.03. For a more detailed explanation see the Review of Labor and Economic Conditions, Vol. 4, No. 4, (February 1978 issue), p. 29.

2/ Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Washington, and Wright Counties.

3/ Benton, Sherburne, and Stearns Counties.

Selected Minnesota Program Statistics

Characteristics of the Insured Unemployed

Tables 1 and 2 provide data on persons who filed a claim for unemployment compensation in Minnesota during the month. Only those claiming benefits from the regular State program are represented since data on the characteristics of Federal employees and veterans are not available.

The total number of claimants for unemployment benefits fell by 2,371 or 6.7 percent between July and August, somewhat less than the five year average drop of 10 percent from July to August. However, claimants in mining rose very sharply (58 percent) this August in contrast to an average decrease of 19 percent over the past five years. Meanwhile, the August decline in construction claimants was not as steep as in the Augusts of past years. Over-the-year, the total number of claimants fell by 30,662 or 48.3 percent. The drop from the year earlier was the sixth in a row and each over-the-year decline has been larger than that of the preceding month. However, it should be noted that the number of persons who have exhausted their benefits was at a very high level and we suspect that a considerable number of the unemployed were not previously employed long enough to collect benefits. September claim loads show continued overall declines, albeit at a slower pace than in July and August.

Table 1. Distribution of Insured Unemployed, By Age and Sex, August 1983

Age Groups	Number	Percent Distributions		
		Men of Totals	Men of Men	Women of Women
TOTALS	32823	59.5	100.0	100.0
Under 45	24600	60.5	76.2	73.2
Under 25	5529	61.1	17.3	16.2
25-34	11915	62.2	37.9	33.9
35-44	7156	57.2	21.0	23.1
45 and Over	8223	56.6	23.8	26.8
45-54	4552	55.7	13.0	15.2
55 and Over	3671	57.8	10.8	11.6

Table 2. Distribution of Insured Unemployed By Industry and Occupation, August 1983

Industry and Occupational Attachment	Number	Percent of Total	Percent Long-Term 1/ Unemployed	Women as Percent of Total
Total, All Industries	32823	100.0	26.4	41.0
Ag., For., Fish.	323	1.0	16.7	33.3
Mining	2009	6.1	20.7	4.0
Construction	3127	9.5	19.7	6.7
Manufacturing	8022	24.4	32.4	38.1
Pub. Utilities	1713	5.2	27.0	29.4
Wholesale Trade	2375	7.2	31.9	31.7
Retail Trade	4982	15.2	31.5	48.2
Fin., Ins., Real Est.	1004	3.1	33.1	59.3
Services	8104	24.7	20.4	63.3
Public Admin.	623	1.9	20.2	56.2
Inf. Not Available	541	1.7	4.6	36.8
Total, All Occupations	32823	100.0	26.4	41.0
Prof., Tech., Mgr.	6772	20.6	24.3	50.6
Clerical	4734	14.4	30.6	82.6
Sales	1558	4.8	35.9	39.0
Services	2982	9.1	25.4	56.4
Farm., For., Fish.	225	0.7	16.1	25.3
Processing	1420	4.3	48.1	29.5
Machine Trades	1922	5.9	29.6	16.2
Benchwork	2534	7.7	21.9	57.4
Structural Work	4307	13.1	21.2	3.2
Misc.	5842	17.8	23.0	20.0
Inf. Not Available	527	1.6	29.1	41.8

1/ Long-Term unemployed refers to unemployment insurance claimants whose current spell of unemployment has lasted 15 weeks or longer.

Job Service Applicant Supply and Demand

Table 3 compares Job Service (J.S.) job applicants with the J.S. job openings that existed at the end of the month. These comparisons are expressed as supply/demand ratios. Other things being equal, the greater the ratio of applicants to openings, the greater the competition has been for work within that occupational category. To put these ratios into context, the reader must remember that not only do job seekers and employers in general find jobs or recruit workers through other means, but those interested in certain kinds of jobs are particularly unlikely to use the J.S. For example, workers seeking professional and Managerial jobs are least likely to use the J.S., whereas employers usually recruit construction workers through union halls and hire teachers directly. Thus, the main value of Table 3 is that it reflects, for broad occupational groups, the relative labor market conditions that those using the J.S. encountered when seeking work.

Table 3. Experienced Supply/Job Openings Demand 1/

Occupation	Applicants (Supply) August 1983	Job Openings (Demand) August 1983	Supply/Demand Ratio	
			June 1983	June 1982
Total	113776	11775	9.7	6.9
Prof., Tech., Mgr.	14655	738	19.9	7.9
Clerical	19196	3023	6.3	6.0
Sales	5174	2117	2.4	3.2
Dom. Services	2019	216	9.3	2.9
Other Services	16274	2700	6.0	4.2
Farm., Fish., For.	6047	198	30.5	11.5
Processing	2456	596	4.1	2.5
Machine Trades	7713	331	23.3	17.5
Benchwork	7529	322	23.4	18.7
Structural Work	15067	457	33.0	13.0
Mtr. Frght., Trans.	4853	397	12.2	14.5
Pkg. & Mat. Hndlg.	11171	644	17.3	7.5
Other	1622	36	45.1	19.6

1/ Inexperienced and improperly coded job applicants are not included in this table.

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MINNESOTA DEPARTMENT OF ECONOMIC SECURITY

RESEARCH AND STATISTICAL SERVICES OFFICE

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The Review of Labor and Economic Conditions is published quarterly by the Research and Statistical Services Office of the Minnesota Department of Economic Security, 390 North Robert Street, St. Paul, MN, 55101, in cooperation with the United States Department of Labor, Bureau of Labor Statistics, and the Employment and Training Administration. Current Minnesota Labor Market Conditions is published in the eight months for which no Review appears. Subscriptions and single copies are available without charge and may be obtained by writing to the editor.

Manuscripts of articles are welcomed and should be submitted to the Editor. Articles on labor market conditions and the economic welfare of Minnesota workers are preferred, but subjects which can be shown to be closely related to general economic conditions within the State will also be considered. Articles should be submitted complete with tables and graphs. Length generally should not exceed the equivalent of ten single-spaced typewritten pages, including graphs, references, and notes.

All signed articles appearing in this publication together with the Editorial Comment represent the views of the author or editor and not necessarily those of the Department. Questions or comments to the authors may be directed to the Research and Statistical Services Office of the Minnesota Department of Economic Security, 390 N. Robert Street, St. Paul, Minnesota, 55101 or (612) 296-6545.

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Editorial Comment

SOME BASIC LESSONS IN ECONOMICS

By R. Pinola

As with any form of economic activity, there are some basic lessons to be learned if aborted and misplaced policies are to be avoided. The case of Minnesota's iron ore mining industry is but one of many cases where the shock of economic reality has shattered euphoristic images that utopian flights of fancy have conjured up. Like sand castles, our economic fortunes are subject to the relentless erosion by forces that are not readily perceived or understood. Although it cannot provide tidy and painless solutions to problems caused by economic change, timely and well-designed research can yield valuable information which, if properly used, can help us adjust to change or at least mitigate its undesirable effects. Unfortunately, such research is too often deferred or unsupported until the economic malaise is upon us. 1/

Given the dynamic nature of the economy, it is obvious that industrial and economic policies and strategies should be predicated on a careful evaluation of factors that condition changes in the supply of and demand for goods and services. On the supply side, a nation or region may enjoy favorable terms of trade or a competitive advantage in the production of certain goods or services, but changes in technology, factor prices, and factor endowments can quickly erode such advantages. At the national level it can lead to pernicious balance of payments problems, currency devaluations, and a loss in flexibility to deal with pressing domestic issues. At the regional or area level it can lead to long-term stagnation and the concomitant problems of high unemployment and intergenerational poverty and dependency.

When the United States devalued the dollar in 1973, it did so to stem the flow of gold caused by an unacceptable balance of payments problem that reflected a deterioration in our competitive position in the production of goods and services. This deterioration was primarily the result of our failure to control escalating costs. Instead of directing attention to controlling costs of production, we found it easier to secure cost relief by manipulating aggregate demand through fiscal and monetary policy. Such relief ultimately became self-defeating since it put us further away from a solution to the basic problem. While devaluation provided temporary relief, it also failed to resolve the long-term problem. 2/ The end result was a predicted further deterioration in our competitive position and new bouts of deficits in our international trade accounts. Rather than meet the problem head-on, American industry continued to ratchet its prices to uncontrolled production costs. In this respect, the iron and steel industry exemplified the operational philosophy to shrinking markets brought on by increased competition from within as well as outside the industry. 3/

1/ In the case of Northeastern Minnesota, a comprehensive economic study of the area, including the iron ore mining industry, was proposed in 1971 and again in 1976. However, it failed to receive the support of State and area agencies whose purpose is to promote economic development.

2/ It also introduced the possibility of retaliation and a return to "beggar-thy-neighbor" policies of the 1930s.

3/ Price-related substitution of other materials for steel and steel products, together with structural changes in the economy, has made the traditional linkage between steel output and aggregate economic activity more tenuous.

It would be easy to single out management for continuing to follow pricing and production strategies formulated in more halcyon days, but labor also exhibited "tunnel vision" in believing that a never-ending stream of wage and benefit increases could be wrung out of the system without compensating increases in productivity.

The problems created by runaway production costs at home, the diffusion of new technology among a wider circle of producers abroad, and product substitution were exacerbated by the multiple increases in energy prices by OPEC that came on the heels of the 1974 oil embargo. This had a particularly severe effect on Minnesota's iron ore industry which is a heavy user of thermal and electrical energy. In this context, it should be noted that the U.S. Bureau of Mines has estimated that energy costs as a percentage of operating costs in the production of iron pellets in the United States rose from 10 percent to 25 percent between 1973 to 1981. Since Minnesota's iron ore mining industry is almost exclusively devoted to producing pellets from low grade ores, it meant rapid increases in production costs unless savings in energy use or some other cost reductions could be achieved. 4/ Although producers of pellets have effected considerable savings in thermal energy usage, reductions in costs in other areas have been, at best, modest. Thus, the U.S. Bureau of Mines reports that although average hourly wages in Minnesota's iron ore mining industry rose from $5.76 in 1974 to $14.69 in 1982, productivity per ton of usable ore has remained flat or even declined.

Because of its bulk, the transport of iron ore and pellets comprises a large portion of operating costs. Estimates range from 20 to 40 percent of operating costs, with rail transport much higher than shipment by water, and ocean freight about one-fourth of the cost of lake freight. Since shipments of pellets from Minnesota's iron ore mines must first move 60 to 85 miles by rail, and thence from 600 to 900 miles by lake freight, reducing transport costs can only be achieved by increasing the capacity of lake freighters and/or improving dock loading and unloading facilities. Such improvements have already been largely made and its problematical what additional gains can be achieved. Moreover, while increasing the iron content of pellets can effectively reduce transport costs, it involves higher costs at the production end, an exercise whose benefits are not known or currently estimated.

What we are left with are two areas where futher cost reductions in Minnesota's iron ore mining industry need more scrutiny. These are the reduction of labor costs through increases in productivity or the moderation of wage increases, and a reduction of taxes on the iron ore mining industry. In each case, decisions must be based on objective and documented research. It may even entail examining the efficacy of combining currently separate operations to achieve decreasing costs from more efficient use of some factors of production. Before misplaced policies and programs are formulated with the hope of capturing what once was, perhaps a hard look at economic realities is essential.

4/ Minnesota producers of pellets are also locked into contracts with public utility companies guaranteeing the purchase of electric power that is based on capacity demand. This means that power costs per ton of usable ore/pellets will rapidly rise as output falls below capacity.

Research Summaries

THE OCCUPATIONAL DISTRIBUTION OF MINNESOTA'S LABOR FORCE 1960 TO 1980

By B. Steuernagel

According to Census data, between 1960 and 1980 the Minnesota labor force expanded by over 690,000 people. Two out of every three new members of the labor force were women. This article summarizes changes in the occupational makeup of the labor force over the past two decades and compares growth rates for major occupational categories for males and females.

Table 1 below contains estimates of the Minnesota labor force by occupation for three time periods. Estimates for 1960 and 1970 have been adjusted to the 1980 Census Occupational Classification scheme. 1960 figures include people 14 years of age and older while 1970 and 1980 data include those 16 years and older. Table 2 compares the growth rates among the occupations for men and women.

Table 1

Minnesota Labor Force by Occupation 1960, 1970, 1980

	Number						Percent Distribution					
	Male			Female			Male			Female		
	1980	1970	1960	1980	1970	1960	1980	1970	1960	1980	1970	1960
Total, All Occupations	1,137,434	945,328	886,431	855,918	579,682	410,019	100.0	100.0	100.0	100.0	100.0	100.0
Exec., adm., mgr.	146,067	124,441	104,813	57,813	25,221	16,252	12.8	13.2	11.8	6.8	4.4	4.0
Professional specialty	121,297	98,574	58,462	116,433	81,813	52,758	10.7	10.4	6.6	13.6	14.1	12.9
Tech. and related support	37,353	24,941	11,973	29,654	13,132	6,786	3.3	2.6	1.4	3.5	2.3	1.7
Sales	101,203	65,184	60,926	91,653	56,692	42,339	8.9	6.9	6.9	10.7	9.8	10.3
Adm. support, incl. cler.	67,642	60,239	52,536	256,563	182,981	110,935	5.9	6.4	5.9	30.0	31.6	27.1
Priv. house. serv.	293	286	945	7,067	15,446	27,602	0.0	0.0	0.1	0.8	2.7	6.7
Protect. serv. and other serv., excl. priv. house.	99,801	70,166	48,133	171,342	113,174	68,057	8.8	7.4	5.4	20.0	19.5	16.6
Farm., forest., and fish.	95,066	103,975	169,385	16,220	8,391	15,016	8.4	11.0	19.1	1.9	1.4	3.7
Precision prod., craft, and repair	213,775	174,737	153,615	19,398	10,357	7,158	18.8	18.5	17.3	2.3	1.8	1.7
Machine oper., assemb., inspect.	96,057	87,926	70,452	63,121	56,254	33,890	8.4	9.3	7.9	7.4	9.7	8.3
Transport. and material moving	83,330	67,304	62,808	5,644	1,742	579	7.3	7.1	7.1	0.7	0.3	0.1
Handlers, equip. cleaners, helpers, and laborers	73,034	67,416	62,443	17,583	13,431	8,057	6.4	7.1	7.0	2.1	2.3	2.0
Long-term unemployed	2,516	140		3,427	1,048		0.2	0.0		0.4	0.2	
Occupation not reported			29,940			20,590			3.4			5.0

Source: Census of Population, Bureau of the Census, U.S. Department of Commerce.

Table 2

Percent Change in Minnesota Male and Female Labor Force, By Occupation, 1960-70 and 1970-80

Occupation	Male		Female	
	1960-70	1970-80	1960-70	1970-80
Total, All Occupations	6.6	20.3	41.4	47.7
Exec., adm., mgr.	18.7	17.4	55.2	129.2
Professional specialty	68.6	23.1	55.1	42.3
Tech. and related support	108.3	49.8	93.5	125.8
Sales	7.0	55.3	33.9	61.7
Adm. support, incl. cler.	14.7	12.3	64.9	40.2
Priv. house. serv.	-69.7	2.4	-44.0	-54.2
Protect. serv. and other serv., excl. priv. house.	45.8	42.2	66.3	51.4
Farm., forest., and fish.	-38.6	-8.6	-44.1	93.3
Precision prod., craft, and repair	13.7	22.3	44.7	87.3
Machine oper., assemb., inspect.	24.8	9.2	66.0	12.2
Transport. and material moving	7.2	23.8	200.9	224.0
Handlers, equip. cleaners, helpers, and laborers	8.0	8.3	66.7	30.9

Source: Census of Population, Bureau of the Census, U.S. Department of Commerce.

The fastest growing occupational group in the Minnesota labor force between 1960 and 1980 was technicians and related support occupations, such as computer programmers and legal assistants. The service occupations were the second fastest growing group over the time period, followed by professional and administrative support including clerical occupations. Although all four of these fast growing occupational groups experienced a decrease in their growth rate between 1970 and 1980 compared to the previous decade, this decrease was most pronounced in the professional category. The principal reason for the slowdown was the shifting demand for teachers, the largest professional occupation, caused by changing enrollment trends. Between 1960 and 1970, the number of teachers, excluding post-secondary, increased by 62.2 percent, from 36,368 to 58,975. During the next ten years, the number of teachers increased by 28.8 percent, from 58,975 to 75,977.

The two occupational groups which experienced the greatest decline over the twenty year period were private household service workers which declined by 74.2 percent and farming, forestry, and fishing occupations which dropped by 39.7 percent with practically all of the decrease occurring between 1960 and 1970. Looking back further in history reveals the dramatic evolution which Minnesota's labor force has undergone in the past forty years. In 1940, there were 279,937 farmers and farm laborers and 35,335 private household workers. Together they accounted for over one-third of the Minnesota labor force in 1940 while today they make up slightly over 5 percent.

The fastest growing occupational category for women over the 1960-1980 time span was transportation and material moving occupations which increased by a whopping 874.8 percent. This increase was primarily due to the increase in the number of female school bus drivers in the State, 2,772 in 1980 compared to only 270 in 1960. Despite this increase, females make up only slightly more than six percent of the State's total labor force in transportation occupations. The number of women in technical occupations increased by 337 percent and the number in executive, administrative, and managerial occupations increased by 255.7 percent. Among the technical occupations which grew rapidly over the two decades were computer programmers which increased from 38 in 1960 to 2,506, electrical and electronic technicians which grew from 52 to 743, dental hygienist which expanded from 185 to 1,103, and clinical lab technicians which grew from 1,313 to 4,505. Among executive and managerial occupations, the female labor force increased rapidly in the following specific areas: financial managers and bank officers (55 to 2,023), buyers (784 to 2,732), accountants (1,520 to 8,008), personnel managers (558 to 1,513), and public administration managers (596 to 1,444).

With these increases, the female proportion of the total number of executive, managerial, administrative, technical, and clerical workers has increased significantly. Over 28 percent of the managerial labor force was female in 1980 compared to just over 13 percent in 1960. About 79 percent of the 1980 administrative support labor force was female compared to about 68 percent in 1960. In 1980, about 44 percent of the technical labor force was female compared to 36 percent in 1960.

Despite these increases, the distribution of the female labor force remains much as it was 20 years ago. 50.8 percent of the female labor force was found in clerical and service jobs in 1980 compared to 50.4 percent in 1960. In the service category, women have moved from private household employment as maids to providing food, health, and cleaning services in hotels, restaurants, and hospitals.

The Job Market

THE PRINTING AND PUBLISHING INDUSTRY

By B. Jones

Employment in the Printing and Publishing Industry has grown steadily over the past twenty years, with an annual average growth rate of 2.7 percent or 695 workers. This article will look at the composition, employment and occupational staffing patterns of the Printing and Publishing Industry in Minnesota.

The Industry

The Printing and Publishing Industry is comprised of firms engaged in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen; and those establishments which perform services for the printing trade such as bookbinding, typesetting, engraving, photoengraving, and electrotyping. Also included in this group are establishments involved with publishing newspapers, books, and periodicals, regardless of whether or not they do their own printing.

Currently, there are over 1,300 Printing and Publishing establishments in Minnesota. These firms employ 35,400 workers, comprising approximately two percent of the State's nonagricultural wage and salary employment. A little more than two-thirds of this total work in the Twin Cities nine-county area.

From 1970 to 1978 employment in the Printing and Publishing Industry increased by 31 percent, compared to 23 percent for total employment for the State. However, the growth is expected to slow by nearly half during the 1978-85 time period, with employment projected to rise by only 18 percent. State total employment is anticipated to expand by 23 percent for the same time period.

Approximately 37 percent of the Industry employment is classified as commercial printing, 28 percent publishing and printing of newspapers, and ten percent printing and publishing of books. The remaining 25 percent is spread among printing and publishing of periodicals, greeting cards, manifold business forms, blank books, and service industry for the printing trades, such as typesetting, photoengraving, electrotyping, stereotyping, and lithographic platemaking.

Occupational Staffing Patterns

Occupational staffing patterns for the Printing and Publishing Industry, as shown on Table 1 indicate that one third of all workers are craft workers. Clerical, Professional and Technical, and Operatives are the other major occupational groups in this industry.

Craft workers, particularly Printing Trade workers, comprise the biggest bulk (34 percent) of this Industry's employment. From 1970 to 1978 this occupational group expanded by 32 percent; approximately at the same rate as the Industry total (31 percent). However, from 1978 to 1985 the growth rate is expected to drop to eleven percent or seven percent less then total employment in this industry. The four largest occupations in this group are Printing Press Operators (30 percent), Compositors and Typesetters (28 percent), Bookbinders (11 percent), and Blue Collar Worker Supervisors (10 percent).